Claims

1. A method for treating piston skirts by the application of a porous coating via a thermal spray technique chosen from the group consisting essentially of oxy-fuel thermal spray, oxy-fuel wire spray, plasma spray, high velocity oxy-fuel (HVOF), plasma and twin-wire arc spray.
2. The method of claim 1 wherein said porous coating consists primarily of a metal, metal alloy, a cermet, a ceramic material, or a combination of said materials.
3. The method of claim 1 wherein said porous coating consists primarily of the metal molybdenum or of a molybdenum alloy.
4. The method of claim 1 wherein said porous coating is chosen from the group consisting essentially of bronze and brass alloys.
5. The method of claim 1 wherein said porous coating is chosen from the group consisting essentially of titanium carbide, chromium carbide, tungsten carbide and boron carbide.
6. The method of claim 1 wherein said porous coating is further impregnated with a lubrication agent.
7. A method for treating engine block cylinder bores by the application of a porous coating via a thermal spray technique chosen from the group consisting essentially of high velocity oxy-fuel (HVOF), plasma, twin-wire arc, detonation gun, flame spray and cold spray.
8. The method of claim 7 wherein said porous coating consists primarily of a metal, metal alloy, a cermet, a ceramic material, or a combination of said materials.
9. The method of claim 7 wherein said porous coating consists primarily of the metal molybdenum or of a molybdenum alloy.
10. The method of claim 7 wherein said porous coating is chosen from the group consisting essentially of bronze and brass alloys.
11. The method of claim 7 wherein said porous coating is chosen from the group consisting essentially of titanium carbide, chromium carbide, tungsten carbide and boron carbide.
12. The method of claim 7 wherein said coating is applied such that the thickness is greater than the desired final thickness and said coated cylinder bores are further machined to the desired finished dimension.
13. The method of claim 7 wherein said porous coating is further impregnated with a lubrication agent.
14. The method of claim 7 wherein said engine block is fabricated from an aluminum alloy.

15. The method of claim 7 wherein said cylinder bores are comprised of a ferrous alloy liner contained within an aluminum alloy engine block.
16. Piston, in which the skirt of said piston is coated via a thermal spray technique with a layer of a porous coating, in which said coating consists primarily of a metal, metal alloy, a cermet, a ceramic material, or a combination of said materials.
17. Piston of claim 16 wherein said porous coating consists primarily of the metal molybdenum or of a molybdenum alloy.
18. Piston of claim 16 wherein said porous coating is chosen from the group consisting essentially of bronze and brass alloys.
19. Piston of claim 16 wherein said porous coating is chosen from the group consisting essentially of titanium carbide, chromium carbide, tungsten carbide and boron carbide.
20. Piston of claim 16 wherein said porous coating is further impregnated with a lubrication agent.
21. Piston of claim 16 wherein said thermal spray technique is chosen from the group consisting essentially of oxy-fuel thermal spray, oxy-fuel wire spray, plasma spray, high velocity oxy-fuel (HVOF), plasma and twin-wire arc spray.
22. An aluminum alloy engine block containing a porous, thermally sprayed coating of a molybdenum alloy applied to the cylinder bores.
23. The aluminum alloy engine block of claim 22 wherein said cylinder bores are lined with a ferrous sleeve, onto which said coating is applied.
24. The aluminum alloy engine block of claim 22 wherein said porous coating consists primarily of a metal, metal alloy, a cermet, a ceramic material, or a combination of said materials.
25. The aluminum alloy engine block of claim 22 wherein said porous coating consists primarily of the metal molybdenum or of a molybdenum alloy.
26. The aluminum alloy engine block of claim 22 wherein said porous coating is chosen from the group consisting essentially of bronze and brass alloys.
27. The aluminum alloy engine block of claim 22 wherein said porous coating is chosen from the group consisting essentially of titanium carbide, chromium carbide, tungsten carbide and boron carbide.
28. The aluminum alloy engine block of claim 22 wherein said porous coating is applied such that the thickness is greater than the desired final thickness and said coated cylinder bores are further machined to the desired finished dimension.

29. The aluminum alloy engine block of claim 22 wherein said porous coating is further impregnated with a lubrication agent.

30. A ferrous alloy engine block containing a porous, thermally sprayed coating of a molybdenum alloy applied to the cylinder bores.